LISTING OF CLAIMS:

Claims 1-33 (canceled)

Claim 34 (currently amended). A biological suspension processing system comprising:

a blood treatment device for treating one or more components of a biological suspension;

a human subject;

a first fluid flow path, wherein said first fluid flow path is in continuing, direct communication with the vascular system of the human subject and the treatment device for introducing blood from the human subject into the treatment device;

a second fluid flow path communicating with the treatment device for withdrawing a constituent of the blood from the treatment device;

a third fluid flow path communicating with the treatment device for withdrawing another constituent of the blood from the treatment device; and

at least one microelectromechanical sensor communicating with one of said fluid flow paths for sensing either a biological or a chemical characteristic of the fluid within the flow path <u>while said first fluid flow path is in continuing, direct communication with the vascular system of the human subject</u>.

Claim 35 (original). The system of claim 34 in which the sensor generates a signal responsive to one or more selected characteristic of the fluid in one of the fluid flow paths, the suspension treatment device including a controller adapted to receive the sensor signal and to control the treatment device in response thereto.

Claim 36 (original). The system of claim 35 in which the third fluid flow path communicates with the human subject, the treatment device is adapted to add anticoagulant to the blood in the first fluid flow path, the selected characteristic includes the hematocrit of blood in the first fluid flow path, and the controller controls the addition of anticoagulant into the first fluid flow path.

Claim 37 (original). The system of claim 35 in which the controller controls the treatment device in response to the signal to avoid one or more deleterious consequences to the human subject.

Claim 38 (original). The system of claim 35 in which the controller controls the treatment device in response to the

signal to withdraw a constituent of desired quality.

Claim 39 (original). The system of claim 35 in which the controller controls the treatment device in response to the signal to withdraw a constituent of a desired quantity.

Claim 40 (currently amended). The system of claim 35 in which the controller controls the treatment device in response to the signal to withdraw a constituent that is depleted ~~component~~ of an undesired component.

Claim 41 (original). The system of claim 40 in which the undesired component is white cells.

Claim 42 (original). The system of claim 35 in which the controller controls the treatment device in response to the signal to withdraw a desired constituent.

Claim 43 (original). The system of claim 42 in which the desired constituent is platelets.

Claim 44 (original). The system of claim 42 in which the desired constituent is red cells or plasma.

Claim 45 (original). The system of claim 35 in which the sensor senses platelets and the controller controls the treatment device to withdraw a selected minimum quantity of platelets.

Claim 46 (original). The system of claim 34 further comprising a fluid management module carried by the first fluid flow path between the vascular system of the human subject and the treatment device, said fluid management module adapted to receive blood from the vascular system of the human subject via the first fluid flow path and control the amount of blood introduced into the treatment device.

Claim 47 (original). The system of claim 34 further comprising a container communicating with the second fluid flow path for receiving the withdrawn constituent, the system being adapted to provide tracking information for associating with the container the particular characteristic sensed by at least one sensor.

Claim 48 (original). The system of claim 47 in which the system further comprises machine readable or human readable data storage media carried by the container, the data storage media storing information regarding the particular characteristic

sensed by at least one sensor.

Claim 49 (original). The system of claim 48 in which the data storage media comprises a bar code label on the container.

Claim 50 (original). The system of claim 48 in which the data storage media comprises an electronic data storage device.

Claim 51 (original). The system of claim 50 in which the electronic data storage device has a non-volatile semiconductor memory.

Claim 52 (original). The system of claim 48 in which the data storage media comprises at least one icon carried by the container and representative of the sensed characteristic.

Claim 53 (original). The system of claim 48 in which the suspension includes one or more blood components and the blood component withdrawn is a cellular component, and the container is for storing the cellular component withdrawn, and the data storage media includes data regarding the type, quality, purity, quantity or concentration of the cellular blood component in the container.

Claim 54 (currently amended). A biological suspension processing system comprising:

a blood treatment device for treating one or more components of a biological suspension;

a human subject;

a first fluid flow path, wherein said first fluid flow path is in continuing, direct communication with the vascular system of the human subject and the treatment device for introducing blood from the human subject into the treatment device;

a first microelectromechanical sensor communicating with said first fluid flow path for sensing an initial condition of the fluid within said first fluid flow path <u>while said first fluid flow path is in continuing, direct communication with the vascular system of the human subject</u>, said first sensor further generating a signal responsive to the initial condition of the fluid in said first fluid flow path;

a second fluid flow path communicating with the treatment device for withdrawing a constituent of the blood from the treatment device;

a second microelectromechanical sensor communicating with said second fluid flow path for sensing either an in-process condition or a final product condition of the fluid within said

second fluid flow path while said first fluid flow path is in continuing, direct communication with the vascular system of the human subject, said second sensor further generating a signal responsive to the in-process condition or final condition of the fluid in said second fluid flow path; and

a controller adapted to receive the first and second sensor signals and to control the treatment device in response thereto.

Claim 55 (original). The system of claim 54 in which the third fluid flow path communicates with the human subject, the treatment device is adapted to add anticoagulant to the blood in the first fluid flow path, the selected characteristic includes the hematocrit of blood in the first fluid flow path, and the controller controls the addition of anticoagulant into the first fluid flow path.

Claim 56 (original). The system of claim 54 in which the controller controls the treatment device in response to the first or second sensor signal to avoid one or more deleterious consequences to the human subject.

Claim 57 (original). The system of claim 54 in which the controller controls the treatment device in response to the

first sensor signal to withdraw a constituent of desired quality.

Claim 58 (original). The system of claim 54 in which the controller controls the treatment device in response to the second sensor signal to withdraw a constituent of a desired quantity.

Claim 59 (currently amended). The system of claim 54 in which the controller controls the treatment device in response to the first or second sensor signal to withdraw a constituent that is depleted ~~component~~ of an undesired component.

Claim 60 (original). The system of claim 54 in which the undesired component is white cells.

Claim 61 (original). The system of claim 54 in which the controller controls the treatment device in response to the signal to withdraw a desired constituent.

Claim 62 (original). The system of claim 61 in which the desired constituent is platelets.

Claim 63 (original). The system of claim 61 in which the desired constituent is red cells or plasma.

Claim 64 (original). The system of claim 54 in which the sensor senses platelets and the controller controls the treatment device to withdraw a selected minimum quantity of platelets.

Claim 65 (original). The system of claim 54 further comprising a fluid management module carried by the first fluid flow path between the vascular system of the human subject and the treatment device, said fluid management module adapted to receive blood from the vascular system of the human subject via the first fluid flow path and control the amount of blood introduced into the treatment device.

Claim 66 (original). The system of claim 54 further comprising a container communicating with the second fluid flow path for receiving the withdrawn constituent, the system being adapted to provide tracking information for associating with the container the particular characteristic sensed by at least one sensor.

Claim 67 (original). The system of claim 66 in which the system further comprises machine readable or human readable data

storage media carried by the container, the data storage media storing information regarding the particular characteristic sensed by at least one sensor.

Claim 68 (original). The system of claim 66 in which the data storage media comprises a bar code label on the container.

Claim 69 (original). The system of claim 66 in which the data storage media comprises an electronic data storage device.

Claim 70 (original). The system of claim 69 in which the electronic data storage device has a non-volatile semiconductor memory.

Claim 71 (original). The system of claim 67 in which the data storage media comprises at least one icon carried by the container and representative of the sensed characteristic.

Claim 72 (original). The system of claim 67 in which the suspension includes one or more blood components and the blood component withdrawn is a cellular component, and the container is for storing the cellular component withdrawn, and the data storage media includes data regarding the type, quality, purity,

quantity or concentration of the cellular blood component in the container.

Claim 73 (currently amended). A biological suspension processing system comprising:

a blood treatment device for treating one or more components of a biological suspension;

a human subject;

a first fluid flow path, wherein said first fluid flow path is in continuing, direct communication with the vascular system of the human subject and the treatment device for introducing blood from the human subject into the treatment device;

a first microelectromechanical sensor communicating with said first fluid flow path for sensing an initial condition of the fluid within said first fluid flow path <u>while said first fluid flow path is in continuing, direct communication with the vascular system of the human subject</u>, said first sensor further generating a signal responsive to the initial condition of the fluid in said first fluid flow path;

a second fluid flow path communicating with the treatment device for withdrawing a constituent of the blood from the treatment device;

a second microelectromechanical sensor communicating with

said second fluid flow path for sensing either an in-process condition or a final product condition of the fluid within said second fluid flow path while said first fluid flow path is in continuing, direct communication with the vascular system of the human subject, said second sensor further generating a signal responsive to the in-process condition of the fluid in said second fluid flow path;

a third fluid flow path communicating with the treatment device for withdrawing another constituent of the blood from the treatment device;

a third microelectromechanical sensor communicating with said third fluid flow path for sensing a final product condition of the fluid within said third fluid flow path while said first fluid flow path is in continuing, direct communication with the vascular system of the human subject, said third sensor further generating a signal responsive to the final product condition of the fluid in said third fluid flow path; and

a controller adapted to receive the first, second, and third sensor signals and to control the treatment device in response thereto.

Claim 74 (original). The system of claim 73 further comprising a fluid management module carried by the first fluid flow path

between the vascular system of the human subject and the treatment device, said fluid management module adapted to receive blood from the vascular system of the human subject via the first fluid flow path and control the amount of blood introduced into the treatment device.

Claim 75 (original). The system of claim 73 further comprising a container communicating with the second fluid flow path for receiving the withdrawn constituent, the system being adapted to provide tracking information for associating with the container the particular characteristic sensed by at least one sensor.

Claim 76 (original). The system of claim 73 in which the system further comprises machine readable or human readable data storage media carried by the container, the data storage media storing information regarding the particular characteristic sensed by at least one sensor.

Claim 77 (original). The system of claim 76 in which the data storage media comprises a bar code label on the container.

Claim 78 (original). The system of claim 76 in which the data storage media comprises an electronic data storage device.

Claim 79 (original). The system of claim 77 in which the electronic data storage device has a non-volatile semiconductor memory.

Claim 80 (original). The system of claim 76 in which the data storage media comprises at least one icon carried by the container and representative of the sensed characteristic.

Claim 81 (original). The system of claim 76 in which the suspension includes one or more blood components and the blood component withdrawn is a cellular component, and the container is for storing the cellular component withdrawn, and the data storage media includes data regarding the type, quality, purity, quantity or concentration of the cellular blood component in the container.